

Appl. No. 29/746.013  
Amdt. dated November 16, 2004  
Reply to Office Action of August 18, 2004

### Amendments to the Claims

The listing of claims will replace all prior versions, and listings, of claims in the application:

#### Listing of Claims:

1. (Currently amended) A method of mapping an optical network, said optical network comprising a plurality of network elements (NEs), some adjacent pairs of NEs of said plurality of NEs communicating using optical fibers, one or more of said some adjacent pairs forming one or more optical links, said method comprising:

collecting from each one of a plurality of NEs data relating to communication with one or more other NEs maintained by said each NE;

identifying, based on data collected from said plurality of NEs, NEs which, together with optical fibers therebetween, form an optical link;

generating organizing statistical data retrieved from each identified NE into a map or data structure which corresponds to representing the physical layout of said optical link based on data collected from one or more of said identified NEs.

2. (Currently amended) The method of mapping of claim 1 further comprising:  
correlating said ~~each~~ identified NEs with a list of NEs intended to represent NEs for said optical link.

3. (Currently amended) The method of mapping of claim 1 wherein said ~~retrieved statistical~~ data relating to communication comprises performance indicia of said identified NEs.

4. (Currently amended) The method of mapping of claim 1 wherein said ~~identifying NEs~~ collecting comprises:

for a selected NE, retrieving data identifying NEs in communication with said selected NE.

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5. (Currently amended) The method of mapping of claim ~~[[2]]~~4 wherein said retrieving identifying NEs in communication with said selected NE comprises:  
through communication with said selected NE and said NEs in communication with said selected NE, retrieving identity data corresponding to the identity and configuration of said NEs with which said selected NE communicates.
6. (Currently amended) The method of mapping of claim 5 wherein said ~~statistical~~ identity data is retrieved using networked communication.
7. (Currently amended) The method of mapping of claim 6 wherein said identity data information retrieved corresponds to wavebands used by said selected NE and said NEs in communication with said selected NE.
8. (Currently amended) The method of mapping of claim 7 wherein said ~~organizing-generating~~ comprises:  
for each one of said wavebands used by said identified NEs which, ~~together with optical fibers therebetween form said optical link~~, forming a waveband specific data structure corresponding to said optical link in said each waveband, said waveband specific data structure comprising a data block for each one of said identified NEs ~~and said NEs in communication with said selected NE~~;  
  
associating data structures formed for said optical link in different ones of said wavebands with each other; and  
  
populating said data blocks of said associated data structures with ~~said statistical data~~ retrieved collected from said identified NEs.
9. (Currently amended) The method of mapping of claim 8 wherein said ~~each wavebands~~ used by ~~said identified NEs~~ comprise a red waveband and a blue waveband.
10. (original) The method of mapping of claim 8 further comprising:  
  
displaying a graphical representation of said optical link, said graphical representation corresponding to said data blocks and data structures.

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11. (Currently amended) A method for facilitating management of an optical network, comprising:  
over a network, ~~querying~~ receiving from each one of a plurality of network elements (NEs) for identification information identifying said each NE and one or more other NEs with which said each NE communicates; and  
  
correlating said identification information to identify NEs communicating over an optical link.
12. (Currently amended) The method of claim 11 further comprising:  
ordering said identification information for each one NE of said identified NEs communicating over said optical link in an order paralleling an order of said identified NEs communicating over said optical link in said optical network.
13. (Currently amended) The method of claim 12 wherein said correlating comprises correlating red band and blue band information for said each one NE of said NEs.
14. (Currently amended) The method of claim 13 wherein said correlating comprises first correlating said identification information to identify said identified NEs communicating over said optical link using one of a said-red band and a said-blue band.
15. (original) The method of claim 14 wherein said correlating comprises second correlating said identification information to identify said identified NEs communicating over said optical link using another of said red band and said blue band.
16. (Currently amended) The method of claim 15 wherein said correlating further comprises associating said identified NEs communicating over said optical link using said one band with said identified NEs communicating over said optical link using said another red band.
17. (Currently amended) The method of claim 16 wherein said associating comprises determining a first number of said identified NEs using said one band and a second number of said identified NEs using said another band and comparing said first number and said second number.

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18. (Currently amended) A computer readable medium ~~storing operable to provide~~ instructions for directing a processor to map a portion of an optical network, said instructions directing said processor to:

collect from each one of a plurality of network elements (NEs) data relating to communication with one or more other NEs maintained by said each NE:

identify, based on data collected from said plurality of NEs, NEs which, together with optical fibers therebetween, form an optical link;

generate ~~organize~~ statistical data retrieved from each identified NE into a map or data structure which corresponds to ~~representing~~ the physical layout of said optical link based on data collected from one or more of said identified NEs.

19. (Currently amended) The computer readable medium of claim 18 wherein said ~~retrieved statistical data relating to communication~~ comprises performance indicia of said identified NEs.

20. (original) The computer readable medium of claim 18 wherein said instructions directing said processor to identify NEs comprises instructions directing said processor to:

for a selected NE, retrieve data identifying NEs in communication with said selected NE.

21. (Currently amended) The computer readable medium of claim 20 wherein said instructions directing said processor to retrieve data identifying NEs in communication with said selected NE comprises instructions directing said processor to:

through communication with said selected NE and said NEs in communication with said selected NE, retrieve identity data corresponding to the identity and configuration of said NEs with which said selected NE communicates.

22. (Currently amended) The computer readable medium of claim 21 wherein said ~~statistical identity~~ data is retrieved using networked communication.

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23. (Currently amended) The computer readable medium of claim 22 wherein said identity data information retrieved corresponds to wavebands used by said selected NE and said NEs in communication with said selected NE.

24. (Currently amended) The computer readable medium of claim 23 wherein said instructions directing said processor to generate ~~organize~~ comprises instructions directing said processor to:

for each waveband used by said selected NE and said NEs in communication with said selected NE, form a waveband specific data structure corresponding to said optical link in said waveband, said waveband specific data structure comprising a data block for each of said selected NE and said NEs in communication with said selected NE;

associate data structures formed for said optical link in different wavebands with each other; and

populate said data blocks of said data structures associated with said ~~statistical data~~ retrieved from said selected NE and said NEs in communication with said selected NE.

25. (original) The computer readable medium of claim 24 further comprising further instructions directing said processor to:

display a graphical representation of said optical link, said graphical representation corresponding to said data blocks and data structures.

26. (Currently amended) An apparatus for generating a map of a portion of an optical network, said optical network comprising a plurality of network elements (NEs), some adjacent pairs of NEs of said plurality of NEs communicating using optical fibers, one or more of said some adjacent pairs forming one or more optical links, said apparatus comprising:

memory adapted to store computer readable instructions and code;

a network interface adapted to communicate with a data network;

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a processor in communication with said memory and said network interface, said processor adapted to retrieve and execute said instructions and code from said memory adapting said processor to:

collect from each one of a plurality of network elements (NEs) data relating to communication with one or more other NEs maintained by said each NE;

identify, based on data collected from said plurality of NEs, NEs which, together with optical fibers therebetween, form an optical link; and

generate ~~organize~~ statistical data retrieved from said NEs identified using said network interface into a map or data structure representing which corresponds to the physical layout of said optical link based on data collected from one or more of said identified NEs.

27. (Currently amended) The apparatus of claim 26 wherein said ~~statistical data~~ data relating to communication ~~retrieved~~ comprises performance indicia of said identified NEs.